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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/572,594	04/02/2007	Juergen Herwig	286540US0PCT	2899

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EXAMINER	
WITHERSPOON, SIKARL A	

ART UNIT	PAPER NUMBER
1621	

NOTIFICATION DATE	DELIVERY MODE
02/12/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/572,594	HERWIG ET AL.	
	Examiner	Art Unit	
	Sikarl A. Witherspoon	1621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 December 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *3/20/06, 6/20/07, 12/5/08*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-18 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mantegazza et al (US 5,498,793) in view of Herwig et al (US 2003/0100795).

The claims are drawn to a process for the coammoximation of at least two ketones by reacting a mixture of at least two ketones with ammonia, hydrogen peroxide, and a catalyst consisting essentially of silicon, titanium, and oxygen, to give a mixture of ketone oximes. Further limitations include the use of an ammonium salt as co-catalyst, the use of solvent that is at least partially miscible with water, or a water immiscible solvent in combination with an interphase contactor.

Mantegazza et al teach a process for the production of oximes by the ammoximation of a carbonylic compound such as acetophenone and cyclododecanone, with hydrogen peroxide and ammonia, in the presence of a catalyst based on silicon, titanium, and oxygen, and a co-catalyst consisting of amorphous silica (abstract). The solvent employed can be either soluble or insoluble in water, and the catalyst is a titanium silicate (col. 1, line 39 to col. 2, line 4).

The differences between Mantegazza et al and the instant claims are that Mantegazza et al do not expressly teach reacting a mixture of ketones, teaches a silicate as co-catalyst, and does not teach the use of an interphase contactor.

Regarding the first difference, the reference does teach that a compound such as acetophenone or cyclododecanone can be used as reactant. Although there is no specific example employing both reactants at the same time, it would have been obvious to a person having ordinary skill in the art that such reactant may have been combined if the artisan desired a mixture of the corresponding ketone oximes to be produced.

Regarding the other differences, Herwig et al teach a process for ammoximation of a ketone or aldehyde to oximes wherein the reaction is carried out in a biphasic system in the presence of an interphase contactor and a titanium silicate catalyst as well as a co-catalyst comprising an ammonium salt (abstract; examples).

In view of the combined reference teachings, it would have been obvious to a person having ordinary skill in the art, at the time the present invention was made, to substitute the amorphous silica co-catalyst taught by Mantegazza et al with the ammonium salt co-catalyst taught by Herwig et al; specifically, when conducting the process taught by Mantegazza using a solvent that is insoluble in water. Under said circumstances, it would also have been obvious to employ an interphase contactor in the process taught by Mantegazza et al. The obviousness of such as combination of teachings is based on the fact that Herwig et al teach that when conducting such ammoximation processes under biphasic conditions, a high conversion rate an yield

may be achieved when using a titanium silicate catalyst if ammonium salts are added as co-catalyst, along with one or more interphase contactors (Herwig et al, [0012].

Claims 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mantagazza et al and Herwig et al as applied to claims 1-18 and 21 above, and further in view of Leconte (US 2002/0030014).

The instant claims are drawn to the preparation of lactams by Beckmann rearrangement of the ketone oximes prepared according to instant claim 1. Leconte teaches a process for purifying lactams, such as caprolactams, that have been prepared by Beckmann rearrangement of cyclohexane oxime. Since cyclohexanone oxime is a known intermediate in the preparation of caprolactam which in itself a valuable product, it would have been obvious to a person having ordinary skill in the art to use the ketone oximes made by Mantagazza et al and/or Herwig et al as reactant in a subsequent reaction for preparing the corresponding lactams.

Claims 1-18 and 21 are rejected under 35 U.S.C. 103(a) as being obvious over Herwig et al (US 2003/0100795).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an

invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

Herwig et al teach a two-phase ammoximation reaction for producing oximes that differs from the instant claims in that Herwig et al do not expressly teach a specific example employing a reactant comprising more than one ketone being reacted at the same time. However, it would have been obvious to a person having ordinary skill in the art that such reactants may have been combined if the artisan desired a mixture of the corresponding ketone oximes to be produced.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir.

1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-18 and 21 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-5 and 14-20 of U.S. Patent No. 6,664,423. Although the conflicting claims are not identical, they are not patentably distinct from each other because the primary difference is that the instant claims recite a mixture of ketones being reacted while the co-pending application claims a ketone or aldehyde being reacted. This is not a patentable distinction because it would have been obvious to a person having ordinary skill in the art to react a single ketone, or a mixture of ketones, or an aldehyde or mixture of aldehydes, or even a mixture of a ketone and an aldehyde, based in the desired product distribution of the corresponding oximes produced by the ammoximation process.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sikarl A. Witherspoon whose telephone number is 571-272-0649. The examiner can normally be reached on M-F 8:30-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel Sullivan can be reached on 571-272-0779. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Sikarl A. Witherspoon/
Primary Examiner, Art Unit 1621